

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 3 of 11

REMARKS

Applicants appreciate the Examiner's thorough examination of the subject application and request reconsideration of the subject application based on the following remarks.

Claims 1-9 are pending in the subject application.

Claims 1-9 stand rejected under 35 U.S.C. §103.

35 U.S.C. §103 REJECTIONS

Claims 1-9 stand rejected under 35 U.S.C. §103 as being unpatentable over Takehara et al. [USP 6,290,220; "Takehara"] in view of Shiraishi [USP 6,445,891"]. Applicants respectfully traverse as discussed below.

In the Office Action its is asserted that Takehara teaches an image forming apparatus having a sheet eject mechanism which is moveable between an initial position and a sorting position and a control device for controlling the sheet feeding mechanism via sensors. The Office Action also admits that Takehara does not clearly teach the control device that regulates a delay time required for the sheet mechanism moving from an initial position to the sorting or other position. It is further asserted that Shiraishi teaches a control device which regulates the delay time for the sheet eject mechanism moving from a position to other position via the initial sensor, the timing sensors and an offset motor. Applicants respectfully disagree with the asserted teachings of each of the two cited references.

Applicant claim, claim 1, an image forming apparatus that includes a sheet eject mechanism and a control device. The sheet eject mechanism is movable between an initial

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 4 of 11

position and a sorting position in a direction that is orthogonal to a sheet transport direction when in a sorting processing, where sheets are being sorted by copy or by image-forming job in the sorting processing. As is clear from the subject application the sheet eject mechanism is the mechanism which ejects the sheets that have completed image processing and being discharge onto a sheet discharge tray. The control device is arranged so that it regulates a delay time required for the sheet eject mechanism to move from the initial position to the sorting position with a sheet held therein to start to return to the initial position after ejecting the sheet such that the sheet eject mechanism completes its return to the initial position within a transport interval, sheets being transported sequentially to the sheet eject mechanism at the transport interval.

It also is clear from the subject application that a sheet eject mechanism of the present invention is operationally and functionally different from the image forming apparatuses in which the sheet eject tray is moved or displaced in a direction orthogonal to the sheet transport direction.

In contrast to that asserted in the Office Action, the apparatus disclosed in Takehara does not have a sheet eject mechanism as that claimed by Applicants. The image forming apparatus described in Takehara includes two stack trays 200, 201. The stack trays receive the sheet or bundle outputs from the image forming apparatus depending upon the mode in which the apparatus is being operated under.

The description in col. 8, line 40 through col. 9, line 6, also clearly shows that the two stack trays are arranged so as to be movable in upward and downward directions and also in frontward and rearward directions.

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 5 of 11

The discussion in Takehara (see col. 9, line 54- col. 12, line 59) describing the flow of a sheet P indicates that the sheet being discharged, is discharged to a sample tray 201 when the operator designates a non-sort mode and each sheet P is discharged to a treating tray 130 when the operator designates a staple sort mode. The sort mode description also describes a process whereby the aligning members 141, 142 of the aligning means 140 are used to align the sheets on the treating tray. After the bundle of sheets is arranged on the treating tray 130, the stapled bundle is stacked onto the stacking tray 200. It is further indicated in Takehara that the sheet bundles are stacked on the stack tray while changing the alignment position for each sheet bundle so that the sorted stacking having an offset amount can be performed.

In sum, in the above-described process in Takehara, the sheets discharged following completion of the image forming process, are collected and aligned with respect to each other in a treating tray, then each bundle of the collected sheets is discharged to the stacking tray and then the stacking tray is moved frontward and rearwards so as to cause the so-called sorted stacking. This process is completely different from the functionality of the sheet eject mechanism of the invention claimed by Applicants. As such, it can hardly be said that the sheet eject mechanism described in Takehara describes or teaches the sheet eject mechanism of the claimed invention.

Takehara also describes a process (see col. 13) where the aligning members 141, 142 are operated so that the alignment positions therefore are shifted and offset for each bundle formed on the treating tray 130. In other words, the aligning members are being operated and arranged to align the sheets being accumulated on the treating tray 130 so that the sheets for each bundles are aligned with respect to each sheet of the bundle but also so that the ends of each of the bundle

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 6 of 11

being created are shifted and offset from each other. In this way, it is indicated in Takehara that the stacking tray 200 receiving each of the sheet bundles from the treating tray does not need to effect the offsetting operation. This process also is completely different from the functionality of the sheet eject mechanism of the claimed invention. As such, it can hardly be said that the sheet eject mechanism described in Takehara teach the sheet eject mechanism of the claimed invention.

In addition to not describing nor teaching such a sheet eject mechanism; Takehara also includes no teaching, suggestion nor motivation to modify the apparatus described therein so as to include such a sheet eject mechanism as well as not including any indication that such a modification would be reasonably successful. Applicants also respectfully submit that modifying the apparatus disclosed in Takehara so as to include a sheet eject mechanism would necessarily destroy the intended function of that apparatus.

As to Shiraishi, the image forming apparatus described therein includes an offset stacker (*i.e.*, an offset stacking peripheral device) that is fitted to the paper discharge section of an image forming apparatus. Such an offset stacker allows finished sheets that are being discharged to be offset stacked in the discharge tray. It is further described in Shiraishi, in connection with the description of the background art, that the displacement of the discharge timing and the offset timing may disturb the paper transportation, resulting in a paper jam.

As such, Shiraishi includes an error detection means responsive to the detected signals from the initial position sensor 26 and the offset timing detector 38 to detect errors in the timing of the offset stacking by the offset stacker. See col. 4, lines 49-52 thereof. The CPU in Shiraishi

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 7 of 11

evaluates or monitors the operational status of the stacker. If it is determined that there is an occurrence of a displacement in the timing of the offset motor signal or a malfunction of the moving element 22, the CPU forces the stoppage of all copying operations (*i.e.*, copy processing is stopped by the CPU). It also is described that any residual paper in the image forming apparatus can be discharged under control of the CPU. See cols. 7-8 of Shiraishi.

In sum, Shiraishi nowhere includes a discussion that concerns regulating the delay time as that term is used in the subject application for a sheet eject mechanism.

As can be seen from the foregoing remarks/ observations regarding Takehara and Shiraishi, the sheet eject mechanism in Takahara is different operationally, functionally and structurally from the offset stacker/ sheet eject mechanism of Shiraishi. As such, Applicants further submit that these differences make it intrinsically difficult to combine the teachings of these two references. Thus, Applicants respectfully submit that no one skilled in the art would have been taught, or motivated to combine the teachings of the two references in the manner suggested in the Office Action.

In addition, there also is no discussion in Shiraishi of controlling the delay time based on a comparison of the transport interval (the transport time interval between sheets) with a preset reference time interval. This can be seen in particular from the discussion in col. 5 of Shiraishi concerning the timing diagram of figure 4 thereof. Therein it is provided that after an elapse of a *predetermined* time from the time T2 when the timing sensor 25 is rendered OFF, the CPU 31 issues an OFFSET command to the motor driver 37 (time T3). Similar statements are set forth in cols. 5 and 6 of Shiraishi of the elapsing of a predetermined time from other times. None of the

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 8 of 11

discussion concerning figure 4, suggests or teaches that the delay time is based on a comparison of the transport time interval. As such, Applicants submit that Shiraishi does not disclose, teach nor suggest the image forming apparatus of claim 2. In this regard Applicants also draw the Examiner's attention to the discussion regarding Fig. 10 of the subject application (see pages 35-38 of the subject application).

Also there is no discussion in Takehara nor Shiraishi of the other technique of the present invention as presently embodied in claims 5-9. More specifically, there is no discussion in either of the references to compare the transport interval with a preset reference transport interval and controlling the image forming speed so as to be either of a first image forming speed under certain conditions and a second image forming speed under other conditions based on such a comparison. Further, there is no indication in either of the two references of image forming speed, much less a discussion that the operation of either described image forming apparatus could be intentionally altered so that the image forming operation or process could proceed at a different rate. As is clear from the subject application, the image forming speed is the speed at which copying is conducted or images are formed. Moreover, there is no discussion in either Takehara or Shiraishi of controlling the image forming speed by reducing the speed in cases where it is determined that the transport interval is less than a predetermined value. In the illustrative example provided in the subject application, the first image forming speed is indicated as being 26 ppm and the second image forming speed is 24 ppm.

As provided in MPEP 2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 9 of 11

teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). As provided above, the references cited, alone or in combination, include no such teaching, suggestion or motivation.

Furthermore, and as provided in MPEP 2143.02, a prior art reference can be combined or modified to reject claims as obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Additionally, it also has been held that if the proposed modification or combination would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Further, and as provided in MPEP-2143, the teaching or suggestion to make the claimed combination and the reasonable suggestion of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As can be seen from the forgoing discussion regarding the disclosures of the cited references, there is no reasonable expectation of success provided in either Takehara or Shiraishi. Also, it is clear from the foregoing discussion that the modification suggested by the Examiner would change the principle of operation of the image forming apparatus disclosed in Takehara.

As provided by the Federal circuit, a 35 U.S.C. §103 rejection based upon a modification of a reference that destroys the intent, purpose or function of the invention disclosed in a reference, is not proper and the *prima facie* case of obviousness cannot be properly made. In short there would

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 10 of 11

be no technological motivation for engaging in the modification or change. To the contrary, there would be a disincentive. *In re Gordon*, 733 F. 2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In the present case it is clear that if the image forming apparatus disclosed in Takchara was modified in the manner suggested by the Examiner it would destroy the intent, purpose or function of the device as taught by the reference.

It is respectfully submitted that for the foregoing reasons, claims 1-9 are patentable over the cited reference(s) and thus, satisfy the requirements of 35 U.S.C. §103. As such, these claims are allowable.

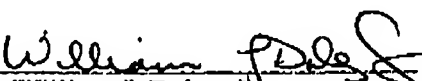
It is respectfully submitted that the subject application is in a condition for allowance. Early and favorable action is requested.

Applicants believe that additional fees are not required for consideration of the within Response. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. 04-1105.

Respectfully submitted,
Edwards & Angell, LLP

Date: October 31, 2004

By:


William J. Daley, Jr.
(Reg. No. 35,487)
P.O. Box 55874
Boston, MA 02205
(617) 439- 4444

Applicant: K. Matsuyama et al.
U.S.S.N.: 10/630,470
RESPONSE TO OFFICE ACTION
Page 11 of 11

Customer No. 21,874

Box2_456550.1